



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,030	11/26/2003	Kevin John Brown	2775/105	8854
2101 7590 06/09/2009 BROMBERG & SUNSTEIN LLP 125 SUMMER STREET BOSTON, MA 02110-1618				
EXAMINER				
CATTUNGA, SANJAY				
ART UNIT		PAPER NUMBER		
3768				
MAIL DATE		DELIVERY MODE		
06/09/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/723,030

**Applicant(s)**

BROWN, KEVIN JOHN

**Examiner**

SANJAY CATTUNGAL

**Art Unit**

3768

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 6-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 6-20 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant argues that none of the references teaches the newly claimed feature obtaining pixel values by averaging voxels. Examiner would like to point that the new reference Zhang teaches obtaining pixel values by averaging voxels (paragraph 0050).

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 6-14 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,385,288 to Kanematsu in view of U. S. Patent No. 7,171,255 to Holupka et al. further in view of U. S. Publication No. 2005/0171430 to Zhang et al.**
5. Regarding Claims 6 and 12, Kanematsu teaches a radiotherapy apparatus comprising: a two-dimensional imager responsive to imaging radiation and generating a two-dimensional imaging output (Fig. 1 element 13); and a therapeutic source

controllable in response to feedback from the tomography data and producing therapeutic radiation (Fig. 1 element 15).

6. Kanematsu does not expressly teach computing means for processing the imaging output to produce a plurality of intersecting sectional views, each sectional view being an image containing pixels with values derived from a plurality of voxels in the tomography dataset which are disposed transverse to the corresponding section.

7. Holupka teaches computing means for processing the imaging output to produce a plurality of intersecting sectional views, each sectional view being an image containing pixels with values derived from a plurality of voxels in the tomography dataset which are disposed transverse to the corresponding section (Fig. 5a and 5b).

8. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kanematsu with image processing means to produce a plurality of intersecting sectional views as taught by Holupka, since such a setup would result in better diagnosis, as a sectional view will provide more precise determination of the treatment site.

9. Kanematsu and Holupka teach all of the above claimed limitations but do not expressly teach obtaining pixel values by averaging voxels.

10. Zhang teaches obtaining pixel values by averaging voxels (paragraph 0050, 0051, and 0091).

11. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Kanematsu and Holupka to teach that the pixel values are obtained by averaging voxels, as taught by Zhang, since such a setup would result in better

diagnosis, as the 2d image will have more data in it as it's an average of the voxel values.

12. Regarding Claims 7-11 and 18-20, Holupka teaches creating two dimensional sectional images from a three dimensional scan, which corresponds to employing a plurality of voxels. (Fig. 5a and 5b)

13. Regarding Claim 13, Kanematsu teaches the use of an input means. (Fig. 1a)

14. Regarding Claim 14, Kanematsu teaches the use of a display means (Fig. 1 a, Fig. 5a and 5b).

**15. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,385,288 to Kanematsu in view of U. S. Patent No. 7,171,255 to Holupka et al. in view of U. S. Publication No. 2005/0171430 to Zhang et al. and further in view of U. S. Patent No. 6,425,867 to Vaezy et al.**

16. Regarding Claim 15-17 Kanematsu and Holupka teaches all of the above claimed limitations but does not expressly teach superimposing images.

17. Vaezy discloses superimposing images. (Abstract)

18. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kanematsu and Holupka to superimpose images as taught by Vaezy, since such a setup would result in more operator friendly diagnostic system as images could be superimposed and hence the differences could be easily noted.

***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

20. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANJAY CATTUNGAL whose telephone number is (571)272-1306. The examiner can normally be reached on Monday-Friday 9-5.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SPC

/Long V Le/  
Supervisory Patent Examiner, Art Unit 3768